

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: INVUE

Report Number: P596513

Luminaire Tested: **MSA-SA1B-827-U-T3-HSS**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596513  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-11)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1B-827-U-T3-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2749 lumens  
Efficiency: N/A  
Efficacy: 62.5 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B0 - U0 - G1

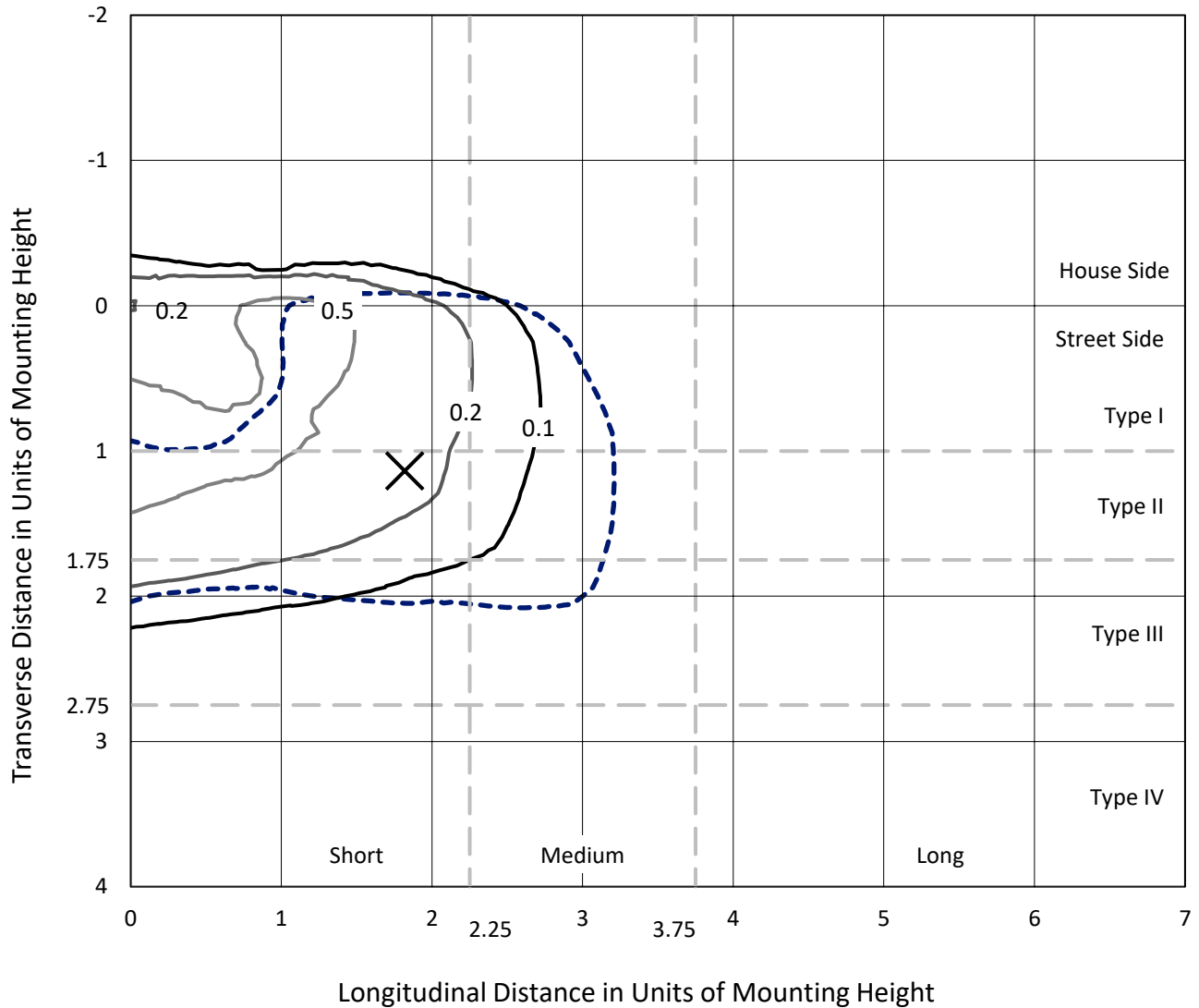
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

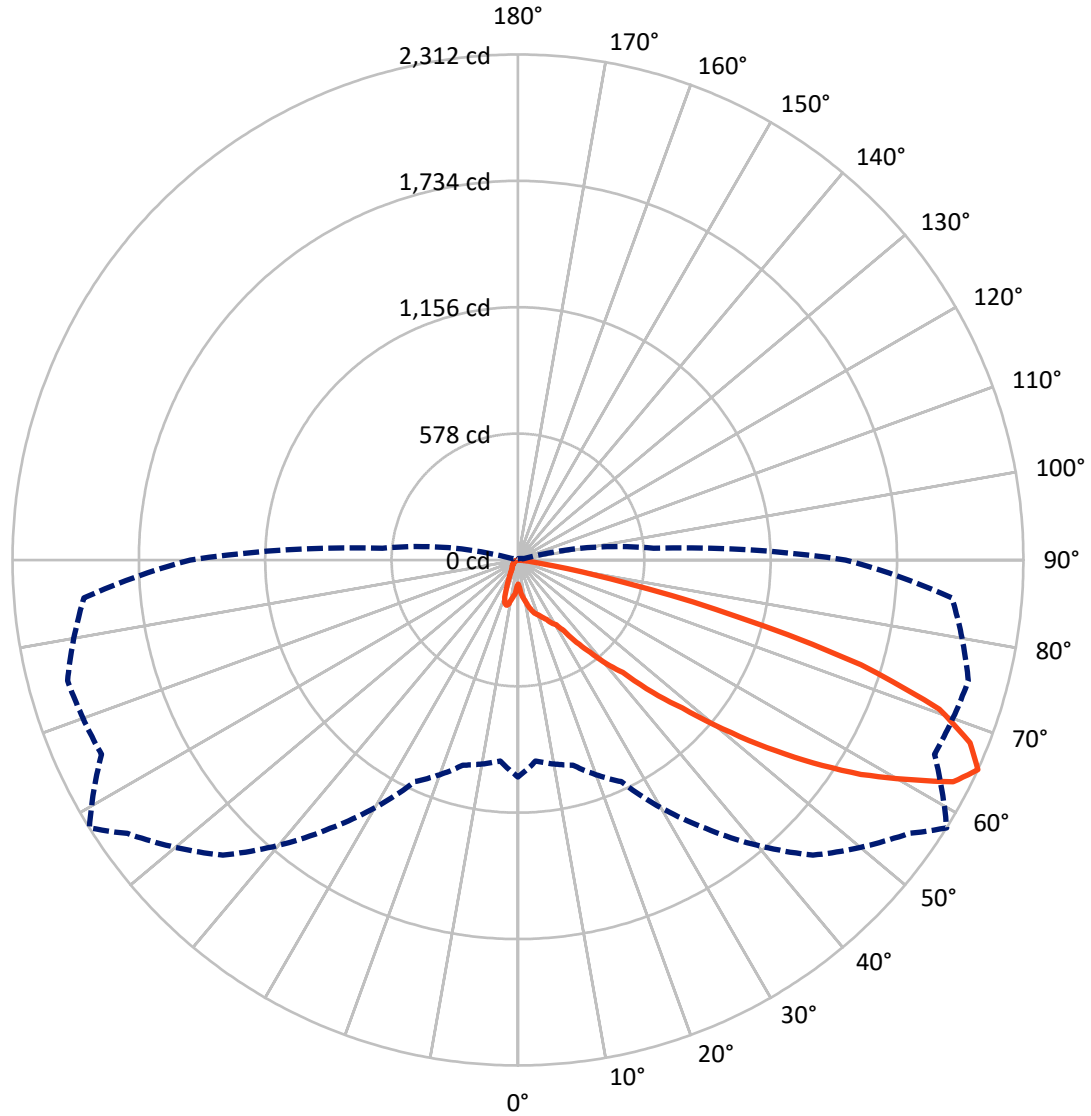
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.7 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral      - - - Horizontal Cone Through 65-Deg Vertical

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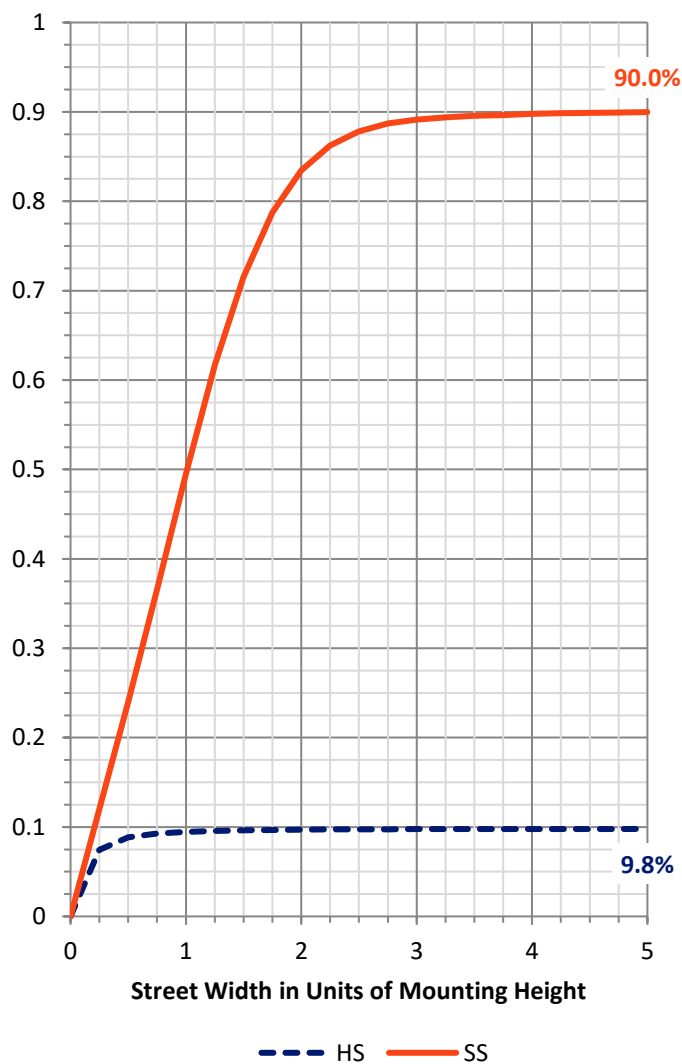
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	271.3	0.0	271.3
	% Fixture	9.9	0.0	9.9
<b>Street Side</b>	Lumens	2477.8	0.0	2477.8
	% Fixture	90.1	0.0	90.1
<b>Total</b>	Lumens	2749.0	0.0	2749.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	15.5	0.6
10°-20°	56.4	2.1
20°-30°	109.2	4.0
30°-40°	217.9	7.9
40°-50°	445.5	16.2
50°-60°	790.2	28.7
60°-70°	833.1	30.3
70°-80°	270.1	9.8
80°-90°	11.0	0.4
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	2749.0	100.0
0°-180°	2749.0	100.0

**Coefficient of Utilization**



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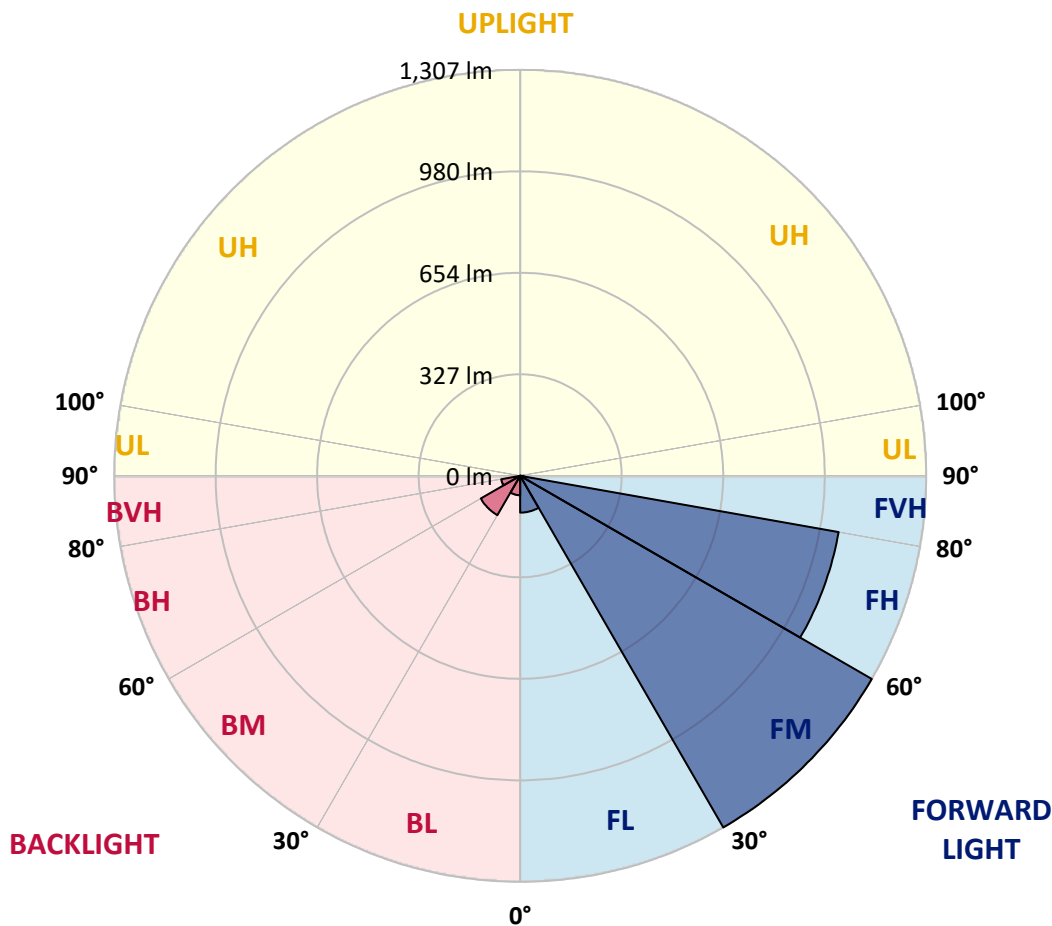
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	118.6	4.3			
FM (30°-60°)	1307.3	47.6			
FH (60°-80°)	1041.3	37.9			G1/1800
FVH (80°-90°)	10.6	0.4			G1/100
BL (0°-30°)	62.5	2.3	B0/110		
BM (30°-60°)	146.4	5.3	B0/220		
BH (60°-80°)	61.9	2.3	B0/110		G0/110
BVH (80°-90°)	0.5	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B0-U0-G1**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0
2.5°	134.3	130.3	124.0	125.1	126.3	128.8	126.8	124.9	122.9	120.3	130.3
5°	162.2	155.6	154.9	153.5	152.5	152.3	154.8	154.0	155.1	160.0	165.1
7.5°	172.4	169.6	164.4	166.5	163.1	160.5	171.5	175.1	181.9	184.2	197.5
10°	171.3	167.3	169.5	170.6	172.9	182.5	189.4	193.3	199.2	211.9	209.3
12.5°	176.3	179.9	182.2	182.3	194.2	211.9	216.8	220.1	230.6	235.6	248.6
15°	192.9	198.7	195.0	196.6	200.4	222.0	233.6	240.7	255.5	271.6	274.9
17.5°	216.5	220.2	212.5	206.9	217.6	229.4	250.4	257.9	267.3	304.9	311.9
20°	246.4	252.8	236.0	213.9	228.0	241.9	264.8	268.4	278.4	327.5	338.5
22.5°	316.2	306.8	281.2	246.7	242.5	248.7	270.6	284.5	301.5	340.2	365.7
25°	385.1	381.8	344.2	305.7	277.8	263.9	292.8	300.6	328.4	370.4	384.5
27.5°	461.7	468.2	405.4	382.0	327.4	281.8	306.8	326.1	359.1	381.4	415.3
30°	562.8	552.4	478.7	455.4	393.0	331.2	342.8	344.1	392.5	417.6	449.8
32.5°	642.0	648.7	556.1	520.2	470.4	407.2	369.9	386.0	420.7	476.6	507.1
35°	727.8	727.1	636.9	588.6	523.5	469.3	450.2	462.0	505.5	568.8	576.9
37.5°	855.9	844.9	738.4	667.7	612.3	566.0	551.5	535.8	580.7	641.1	671.3
40°	976.8	938.9	840.4	756.6	685.7	666.8	614.2	623.8	637.1	716.8	800.2
42.5°	1098.9	1075.4	943.8	873.6	786.4	741.5	707.2	702.7	766.0	860.4	946.6
45°	1260.0	1188.1	1082.8	1021.1	920.2	875.1	847.4	864.0	920.9	1058.8	1116.3
47.5°	1395.3	1329.1	1238.7	1144.9	1039.0	1089.6	1037.6	1011.5	1089.6	1232.2	1308.5
50°	1511.6	1437.7	1346.3	1276.8	1259.6	1308.2	1202.9	1212.5	1263.3	1430.8	1473.8
52.5°	1596.1	1518.4	1438.5	1404.9	1475.3	1499.8	1447.0	1425.8	1471.9	1600.1	1621.0
55°	1659.7	1580.1	1517.7	1564.0	1700.2	1692.2	1710.8	1638.3	1682.4	1776.7	1766.8
57.5°	1663.5	1569.3	1532.8	1607.2	1794.2	1918.8	1973.1	1849.9	1875.0	1914.8	1892.5
60°	1541.9	1448.1	1445.2	1550.9	1821.4	1977.4	2096.3	2036.3	2002.7	2032.2	1990.0
62.5°	1299.5	1233.9	1264.5	1381.4	1720.0	1945.1	2161.9	2234.2	2103.4	2110.1	2050.0
65°	992.3	923.4	971.4	1118.6	1498.4	1908.9	2180.5	2311.6	2101.6	2132.2	1992.4
67.5°	657.2	617.3	671.6	833.8	1191.3	1685.1	2170.9	2230.3	2034.9	2045.7	1778.7
70°	339.3	329.5	373.5	501.5	801.0	1294.6	2076.6	2044.1	1899.4	1762.3	1371.9
72.5°	108.7	109.1	151.4	229.1	431.8	788.1	1596.2	1640.8	1519.9	1289.1	837.7
75°	48.1	47.4	63.3	96.1	180.0	353.4	991.7	1039.8	946.3	709.2	352.1
77.5°	34.7	33.6	40.6	56.2	89.2	119.8	465.0	501.8	429.0	245.8	80.6
80°	24.5	24.3	29.4	39.5	55.7	53.2	146.9	164.7	131.9	59.6	23.7
82.5°	13.8	14.2	20.4	27.9	33.9	26.6	41.3	45.5	44.4	31.7	10.4
85°	6.7	7.4	13.3	20.1	17.8	10.4	14.7	15.9	18.6	18.4	5.3
87.5°	0.0	0.0	5.4	9.1	4.8	1.5	4.5	5.1	5.0	5.9	1.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0
2.5°	132.3	131.4	119.6	120.6	123.2	122.1	123.0	120.9	118.4	128.5	128.3
5°	167.3	160.3	156.6	153.2	153.8	146.9	150.9	152.8	152.5	158.2	159.7
7.5°	198.0	188.7	181.2	174.1	163.3	153.5	159.6	163.4	166.1	176.0	179.9
10°	212.4	204.8	201.8	187.9	180.2	174.1	166.9	161.6	163.8	161.1	163.8
12.5°	243.9	238.8	227.5	213.4	204.2	191.8	164.7	142.1	128.2	128.3	127.4
15°	272.7	272.4	255.5	232.2	205.2	169.9	127.7	99.2	86.1	82.3	81.1
17.5°	310.3	305.7	274.9	240.4	191.9	131.6	87.0	67.9	66.7	68.9	67.9
20°	334.3	327.5	284.5	228.5	158.2	89.0	65.6	60.2	63.9	67.0	66.2
22.5°	358.3	348.1	291.8	213.9	112.5	65.2	59.3	58.4	60.7	64.5	65.2
25°	371.5	369.5	306.0	186.7	77.1	57.1	57.1	56.8	57.6	60.4	59.9
27.5°	409.7	382.5	295.3	145.6	59.6	52.5	53.2	52.9	50.1	52.9	53.1
30°	433.5	421.0	296.1	103.7	52.5	46.4	48.4	46.0	41.8	44.1	43.6
32.5°	481.5	450.2	293.8	70.0	47.8	44.3	41.2	37.6	34.5	35.4	34.7
35°	537.4	513.6	262.3	56.2	44.6	39.2	34.2	30.6	27.4	28.2	28.0
37.5°	648.5	572.8	236.3	50.6	42.4	35.9	30.2	25.2	23.5	24.0	24.5
40°	751.4	671.7	187.9	48.1	38.7	32.0	24.9	21.4	20.3	20.6	21.0
42.5°	905.3	750.4	141.9	45.7	35.0	27.1	20.7	18.4	17.3	18.0	18.3
45°	1054.2	817.2	106.0	43.5	31.9	23.4	17.5	15.9	14.7	15.2	15.8
47.5°	1202.9	891.5	79.1	40.1	28.5	20.1	15.0	13.9	13.2	13.3	14.1
50°	1336.0	926.2	62.2	35.9	25.7	17.5	13.6	12.5	12.2	12.4	13.0
52.5°	1433.9	926.5	52.5	32.2	23.1	15.5	12.8	11.6	11.5	11.8	12.4
55°	1522.2	901.7	45.5	28.9	20.7	14.1	12.2	11.1	11.1	11.5	12.1
57.5°	1580.9	856.2	39.5	25.5	18.7	13.3	11.8	10.7	10.5	10.4	10.8
60°	1609.5	794.2	33.4	22.4	16.9	12.8	11.5	9.4	9.3	9.0	9.3
62.5°	1591.4	716.5	28.0	19.3	15.0	12.2	10.1	8.2	7.9	7.3	7.7
65°	1498.9	622.1	23.7	16.6	13.0	10.4	8.5	7.0	6.2	5.4	5.3
67.5°	1309.6	505.3	19.8	14.2	11.1	8.5	7.0	6.2	4.8	4.2	4.0
70°	981.4	345.0	16.4	12.2	9.3	7.3	5.9	5.6	4.5	4.0	3.7
72.5°	575.8	186.2	13.8	10.7	7.9	6.0	4.8	5.1	4.5	3.7	3.4
75°	230.0	61.9	11.0	8.5	6.3	4.3	4.0	4.2	4.0	3.4	2.8
77.5°	52.5	19.5	8.5	6.7	5.0	2.8	3.3	3.6	3.6	2.8	2.0
80°	16.4	7.7	5.0	4.2	3.6	1.5	2.3	2.5	1.7	0.8	0.0
82.5°	5.3	2.2	1.7	1.7	1.5	0.3	0.5	0.3	0.0	0.0	0.0
85°	2.0	1.4	1.1	1.1	0.6	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.8	0.6	0.5	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)